

Remarks

Claims 1, 3-5, and 12 are amended herein. Claim 1 is amended herein, as discussed with the Examiner on May 18, 2007, and as supported throughout the specification, such as at page 40, line 1 to page 41, line 2; page 42, lines 9-15; page 105, line 105 to page 111, line 28, and in Fig. 7 and Fig. 16. Claims 3-5 are amended herein to be limited to LoxP sites. Support for the amendment of claim 12 can be found throughout the specification, such as on page 40, lines 27-30. New claims 24-26 are added herein. Support for new claim 24 can be found throughout the specification, such as, but not limited to page 40, line 1 to page 42, line 20 and Fig. 16. The subject matter deleted from claims 3-4 is now claimed in new claims 25-26, respectively.

Applicants believe no new matter is added herein. Applicants believe that the application will be in condition for allowance following entry of this amendment.

Following entry of this amendment, claims 1, 3-13, 22 and 23-26 are pending.

Interview Summary

Applicants thank Examiner Dunston for the helpful interview of May 18, 2007 with the undersigned and Dr. Pentao Liu. As discussed in the interview, claim 1 is amended herein to delete “and a first recombining site” in line 10.

As discussed with the Examiner, the Declaration under 37 C.F.R. § 1.131 documents that the method for generating vectors that utilizes both a first and a second pair of recombining sites had been performed prior to February 13, 2002. The Examiner’s attention was specifically directed to page 3 of the declaration, and the discussion of the production of PL437 and PL438. It was discussed that the first and second pair of recombining sites can be LoxP sites or frt sites. It is the Applicants’ understanding the Declaration under 37 C.F.R. § 1.131 will be sufficient to swear behind Cassanova et al.

Specification

The specification is objected to for not referring to deposit numbers on page 44. The specification is amended herein at page 44, lines 28 and 29, to refer to the Deposit numbers, rendering

the objection moot.

Rejections Under 35 U.S.C. § 103

Claims 1, 3-10, 12, 13, 22 and 23 were rejected under 35 U.S.C. § 103 as allegedly being obvious over Cassanova et al., in view of Lee et al., as evidenced by Buchholz et al. Claim 1 is amended herein. Applicants respectfully disagree with the rejection as applied to claim 1 as amended, and any dependent claims thereof.

As discussed with the Examiner, the Declaration Under 37 C.F.R. § 1.131 is sufficient to swear behind Cassanova et al. Thus, Cassanova et al. is not available as prior art.

Lee et al. teach a de-repressible promoter (pL) operably linked to a nucleic acid encoding Beta, Exo and Gam under the control of a temperature sensitive repressor. Lee et al. teach that this method can be used to introduce the arabinose promoter operably linked to Cre, and describe the introduction of a FRT-Kan-FRT cassette into a gene in a bacterial artificial chromosome. However, Lee et al. do not suggest, or render obvious inserting a second nucleic acid encoding a selectable marker flanked by a pair of second recombining sites into a second site in the gene. In addition, Lee et al. do not suggest, nor render obvious, excising the nucleic acid encoding the selectable marker with a second recombinase specific for the second recombining sites, wherein two first recombining sites remain in the gene following excision of the nucleic acid encoding the selectable marker, and wherein recombination of the two first recombining sites produces a nucleic acid sequence that cannot be transcribed to produce a functional protein

Buchholz et al. describes bacterial strains that produce FLP or Cre. Buchholz et al. does not describe methods for producing conditional knockouts of a gene, let alone disclose the use of a first and second pair of recombining sites to generate a conditional knockout. Thus, Buchholz et al. does not make up the deficiencies of Lee et al.

Thus, Applicants submit that claims 1-10, 12, 13, 22 and 23 are not obvious over Lee et al., alone or in combination with Buchholz et al. Reconsideration and withdrawal of the rejection is respectfully requested.

Claims 1, 3, 4, 6-8, 10-13, 22 and 23 are rejected under 35 U.S.C. § 103(a) as allegedly being

obvious over Cassanova et al., in view of Stewart et al., as evidenced by Buchholz et al. Applicants respectfully disagree with this rejection.

As discussed with the Examiner, the Declaration Under 37 C.F.R. § 1.131 is sufficient to swear behind Cassanova et al. Thus, Cassanova et al. is not available as prior art.

Stewart et al. teach a method of performing homologous recombination that utilizes an inducible promoter operably linked to Rec E/T. Stewart et al. teach that homologous recombination can be performed using BACs. However, Stewart et al. do not teach methods for generating vectors for conditional knock-outs, let alone methods that include (1) using homologous recombination to insert a nucleic acid encoding a selectable marker flanked by a pair of first recombining sites into a first site in a gene in a bacterial artificial chromosome, wherein a vector comprises the bacterial artificial chromosome, or (2) excising the nucleic acid encoding the selectable marker with a first recombinase specific for the first recombining sites, wherein a single first recombining site remains in the gene, or using homologous recombination to insert a nucleic acid encoding a selectable marker flanked by a pair of second recombining sites into a second site in the gene, or (3) excising the nucleic acid encoding the selectable marker with a second recombinase specific for the second recombining sites such that two first recombining sites remain in the gene following excision of the nucleic acid encoding the selectable marker, wherein recombination of the two first recombining sites produces a nucleic acid sequence that cannot be transcribed to produce a functional protein.

Buchholz et al. describe bacterial strains that produce FLP or Cre. Buchholz et al. do not describe methods for producing conditional knockouts of a gene, let alone disclose the use of a first and second pair of recombining sites to generate a conditional knockout. Thus Buchholz et al. do not make up for the deficiencies of Stewart et al.

Thus, Applicants submit that claims 1-4, 6-8, 10-13, 22 and 23 are not obvious over Stewart et al., alone or in combination with Buchholz et al. Reconsideration and withdrawal of the rejection is respectfully requested.

Conclusion

Applicants believe the present application is ready for allowance, which action is requested. If any matters remain to be discussed before a Notice of Allowance is issued, Examiner Dunston is respectfully requested to contact the undersigned for a telephone interview at the telephone number listed below.

Respectfully submitted,

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